

DEPARTMENT OF AGRICULTURE OF PR

***FINAL PERFORMANCE REPORT
SCBGP FY 2013
USDA AMS AGREEMENT NUMBER 12-25-B-1662***

Projects to Enhance the Competitiveness of Puerto Rico Specialty Crops through Buy Local Promotional Advertising Program Under a Branded Identity Project; Market Access Plan for Local Coffee Producers; Best Practices Capacity-Building for Local Producers; School Market Access & Capacity Building for Green Vegetable Producers, and Various Recommended Sub-Grantee Projects

Submission Date: 05/17/17

Project Coordinator: Saritza Aulet Padilla
***FIDA Executive Director
Department of Agriculture of PR***

Description of Approved Grant

This is the Final Performance report for Specialty Crops Block Grant under Agreement #12-25-B-1662. The amount requested in State Plan was **\$350,296.18**, but the final amount granted by AMS is **\$352,290.86**.

The grant period begun on October 1, 2013 and closed on September 29, 2016. *This report covers activities and expenses during the year from October 2013 through September 2016.* As a part of the present agreement, the Puerto Rico State Plan includes a Sub Grantee project component. We are scheduled to achieve all task before our end date of September 29, 2016.

The main projects and the allotted budgets for each are included in the following table:

TABLE 1: BUDGET FOR MAIN PROJECTS, SOURCES OF FUNDS

Main Projects		Grant Portion [\$]	State Match Portion [\$]	Sub Grantee Portion [\$]
1	State Managed Projects (4)	270,296.18	270,296.18	0.00
2	Sub Grantee Projects	80,000.00	80,000.00	96,867.90
Totals		\$350,296.18	\$350,296.18	\$96,867.90
Total Grant & State Budget				\$700,592.36

The Sub Grantee Projects (as prior approved in State Plan), as per item 2 of Table 1, are listed in the following Table 2:

TABLE 2: BUDGETS FOR SUB GRANTEE PROJECTS APPROVED, SOURCES OF FUNDS

Sub Grantees	Grant Portion [\$]	State Match Portion [\$]	Sub Grantee Portion [\$]
Plenitud Iniciativas Eco Educativas	20,000.00	20,000.00	20,000.00
Cortés Hermanos, LLC (former Nutricaribe, Inc.)	20,000.00	20,000.00	30,517.90
Nuestra Escuela. Org.	20,000.00	20,000.00	26,350.00
Apiarios Caraballo	20,000.00	20,000.00	20,000.00
Total	\$80,000.00	\$80,000.00	\$96,867.90

The following are the reports of each project. Regarding the Sub Grantee Projects, same will also been address on the details on a project by project basis.

STATE MANAGED PROJECT (1): Buy Local Promotional Advertising Program under a Branded Identity Project

Project Summary

The main purpose of the project was achieved. More agricultural products were made available. Consumers were able to identify locally grown agricultural products in the food distribution chain. The campaign had a positive impact in terms of achieving local product recognition and preference. The campaign emphasized on the quality of our locally grown products which, as a result, increased consumer's demand for our agricultural products and awareness of the importance of consuming local goods.

Within a year, more than 70 specialty crops firms entered several supermarket chains with an increase in sales of over 10%. The local supermarkets advertise the DelPaís brand products in their shoppers using the brand logo to reinforce the added value of quality and freshness that the brand promotes as well as to facilitate to consumers that these locally grown products are easily identified as part of the branding effort.

The main strategy previously used with *DelPaís* brand was partially inconvenient in prior years, because the brand authorizations did not have sufficient production to be effective. The branding program previously had a limited amount of media promotion to make the public aware of the brand. Nevertheless, the brand has survived through the years with limited promotion in commercial fairs, local magazines and press. Now that the local economy is in its worst time, the local producers are willing to participate in more promotional activities and campaigns under a shared brand, and assisted by the Department of Agriculture. This project addresses the need of identification of local produce as an effective tool for collective promotion and advertising of various specialty crop products under a shared brand.

Project Approach

During this grant period the following activities were performed: identification of potential farmers that comply with the membership requirements of the brand effort, visit farms and agricultural firms, and food retailers that could be eligible for the brand, and offer formal presentations of Brand DelPaís to supermarkets and Relaunching of DelPaís in Plaza Loíza Supermarket. The project approach is to make more locally grown products available to retailers and consumers through a more organized image effort achievable through branding. See the following table with the activities realized:

DelPaís branded project has participation of fruits, vegetables, meats and locally grown brown rice, however, as indicated in our approved project proposal we ensured that SCBGP funds were used solely to enhance the competitiveness of Specialty Crops by locally funding all brand related expenses from Non-Specialty Crops. As well as identifying exclusive Branding Strategies like Billboards that only benefit DelPaís brand not Specialty Crops produce and locally funding as well.

Date	Visit
October 2015	Meeting with Mayret Rodríguez, President of Selectos Supermarkets to present the Delpaís Brand and its benefits for retailers to form part of the brand initiative.
	Meeting with Viviana Mercado and Rolando Ortiz, executives of Walmart to present the Delpaís Brand and its benefits for retailers to form part of the brand initiative.
	Visit Vaca Brava Restaurant to present the Delpaís Brand and its benefits for restaurants to form part of the brand initiative. The owner of the restaurant, Mr. Cintrón, wants to be the first restaurant under the Delpaís brand effort.
	Meeting and site visit to Nucleo de Farináceos de Yabucoa to discuss membership criteria to participate under the Delpaís brand and complete brand membership application.
	Meeting with Hortalizas Guayanes to discuss membership criteria to participate under the Delpaís brand and complete brand membership application.
	Presentation of the Delpaís Brand project at the Frutos de Mi Tierra event in Mayaguez from Puerto Rico's Farmers Association.
	Meeting and site visit to Agro Innova in Caguas to present the brand project, discuss membership criteria to participate under the Delpaís brand and complete brand membership application.
	Presentation of the Delpaís Brand project at the Expo Puerto Rico trade event in the Puerto Rico Convention Center.
	Meeting with Juan Méndez, owner of Hacienda Tres Angeles, and graphic designer to discuss and create the Delpaís Coffee label design.
December 2015	Meeting and site visit to Hidrocultivos Carolinenses to present the brand project, discuss membership criteria to participate under the Delpaís brand and complete brand membership application.
	Meeting with Carlos Budett, Master Franchisor of Taco Maker PR, to present the Delpaís Brand and its benefits for restaurants to form part of the brand initiative.
	Follow up on Econo Supermarkets and Plaza Loíza Supermarkets for outstanding documents required to complete retailers brand membership application submission.
	Meeting with Badillo Saatchi staff for brainstorming and content design for the Delpaís Facebook Fanpage to promote the brand through social media.

Activities with advertising campaign: Completion of the design of the campaign (during grant period, and completed on November 2015); Launch of the campaign (December 2015): launching of the campaign was performed through a press conference last December 17. Information was disseminated through the following media: Local newspapers *El Nuevo Día*; *El Vocero* and *Indice*; the new's websites *Endi.com*; *PrimeraHora.com*; *Vocero.com*; *Metro.com* and *Noticel*; *Foro*

Noticioso; Noticias 24-7; EFE, and finally through the TV news channels Canal 6-Noticias and Canal 4-Noticias.

- Advertisements in radio, billboard, newspaper, magazine and Facebook social media network.
- The overall project benefitted specialty crops; fruits, vegetables and farinaceous. Radio ads for pineapple and plantain.
- Social Media ads, consume fruits and vegetables Delpaís.

Goals and Outcomes Achieved

Based on the Expected Measurable Outcomes established for this project, all measurable outcomes were achieved: Number of firms under *Delpaís* brand and benefitting more than 70 farmers and agricultural firms through the brand and advertising campaign, promote the utilization of this brand program, being able to measure an increase in sales of products under the brand of at least 10% (compared to previous sales before the campaign starts), and accounting for the gross rating points of publicity in television in order to measure reach of the tv ad placements.

Activities with advertising campaign: Completion of the design of the campaign (during grant period, and completed on November 2015); *Pre-launch* of the campaign (December 2015): launching of the campaign was performed through a press conference last December 17. Information was disseminated through the following media: Local newspapers *El Nuevo Día; El Vocero and Indice*; the new's websites *Endi.com; PrimeraHora.com; Vocero.com; Metro.com and Noticel; Foro Noticioso; Noticias 24-7; EFE*, and finally through the TV news channels *Canal 6-Noticias and Canal 4-Noticias* which constitute among the highest gross rating points within prime advertisement airtime blocks.

- On June 2016 was the *official* launch of Delpaís campaign in Yabucoa. All participating farmers and agricultural firms under the brand up to date participated of the activity.
- Follow up calls were given to monitor increase in sales. Farmers consistently informed at least a 10% increase in sales due to the use of the brand.
- Supermarkets under the Delpaís brand project increased their purchases of locally grown products through the establishment of the membership collaborative agreement for retailers who, in order to participate of Delpaís, have to submit local purchases listings for FIDA to audit the accuracy and legitimacy of the reported purchases. This, combined with requirements for the use of the logo in shoppers and other retailers' promotional efforts and in store signage, are part of the components within that collaborative agreement. Participating supermarkets are:
 - *Supermax Supermarkets (Vegetables & Fruits)*
 - *Econo Supermarkets (Vegetables and Fruits)*
 - *Plaza Loíza Supermarkets (Vegetables and Fruits)*
 - *Selectos Supermarkets (Vegetables and Fruits)*
 - *Hatillo Kash & Karry Supermarkets (Vegetables and Fruits)*
 - *Pueblo Supermarkets (Vegetables and Fruits)*

The following agricultural firms/ products under the Delpaís brand were able to do business successfully and enter multiple food distribution outlets and points of sales such as the mentioned below:

Agropónicos de Puerto Rico	Hotels: Caribe Hilton, Condado Plaza, The Vanderbilt, among others. Restaurants: Buns Burguer Shops, Babybull, Crepemaker Jaquita Vaya Restaurant, Avocado Restaurant, Finca Paseo Caribe, Nona Restaurant, Touro, Malavida, Jomie Domplin Food Truck, La Taqueria Food Truck, La Preña Food Truck, Pazzi Pizza, Piazza, Mozza Pizzeria Moderna, Belingeri Vegan Restaurant, Dannys International Pizza, Pinche Pancho, Silks, Cage B, Básico Juicebar, Obrigado, Melanzana Bistro, and Melt Restaurant, among others.
Productores de Cítricos de la Montaña	Nutritional Scholastic Food Authority, Costco, Caribbean Produce Distributors and Supermarkets: Econo, Supermax, Selectos, and Ralph's Food Warehouse.
Miel El Colmenar	Placita at Plaza Las Americas, Placita at Plaza Del Caribe in Ponce and other fairs and festivals.
Sofrito Doña Tere	Walmart and Supermarkets: Amigo, Econo, Hatillo Kash & Karry, Super Plaza Salinas, Superdescuentos Morales-Vieques, among others.
Farináceos del Este	Nutritional Scholastic Food Authority, Caribbean Produce Distributors, Marvel Specialties, Econo Supermarkets, Pueblo Supermarkets, Metropolitan Foods (food service company supplying Puerto Rico Cardiovascular Hospital, Banco Popular, and Medtronics), Mandi's BBQ Restaurant, Pollorriqueño BBQ Restaurant, Don Vale Restaurant, and The Parrot Club Restaurant.
Hacienda Tres Ángeles	Pueblo Supermarkets, Hatillo Kash & Karry Supermarkets, and Plaza Loíza Supermarkets.
Hidrocultivos Carolinenses	Nutritional Scholastic Food Authority, Family Farmers Markets ("Mercado Familiar"), Mi Gente Supermarkets, Econo Supermarkets, Colmado La Placita Supermarkets, and WIC Program, among others.
Productos Gosén	Pueblo Supermarkets, Hatillo Kash & Karry Supermarkets, Selectos Supermarkets, hotels and restaurants.

Beneficiaries

- More than 70 farmers and agricultural enterprises
- Supermarkets, Distributors and other food retailers
- Consumers/Customers

The impacted 70 farmers and agricultural enterprises were achieved through the collaborative membership agreements achieved with restaurants and supermarkets and through direct outreach and recruitment by FIDA of eligible specialty crops producers to participate of the Brand program.

Lessons Learned

The development of the brand and advertising campaign to group the agricultural sector is an important and necessary marketing tool to be able to encourage and increase the awareness and consumption of locally grown specialty crops. Many farmers have made previous attempts to gain access to different points of sales like supermarket chains without success. The lack of access to certain type of retailers is partially due to their poor presentation in terms of branding, labels, and packaging, as well as the lack of know how to negotiate with bigger players within the Food Distribution and Retail Industry. Delpaís brand project has given them the tools they require in order to professionalize their company and product presentation in order to gain access to the local retail market through some of the biggest supermarket chains in Puerto Rico. Delpaís has given them the business knowledge and empowerment to continue to grow their businesses through this type of negotiations with bigger stakeholders within the industry. As well, many farmers could have struggled to keep in or gone out of business without the timely intervention and access gain this project gave them in order to increase retail product placement and sales. See the following table as a measure of increase in sales:

Agricultural Firm	Economic Impact
Sofrito Doña Tere	Entry to 43 supermarkets. Sales increased to an average of 40-50 boxes of 24 sofrito units with a product rotation that varies from weekly to monthly purchases.
Hacienda Tres Angeles	Increased sales by \$6,000 in two months.
Hidrocultivos Carolinenses	Increased sales by over \$200,000.
Productores de Citricos de la Montaña	Increased sales by \$87,976.59

We can conclude that the *Delpaís* brand project has been successful having a positive impact in the increased trade activity of specialty crops.

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STATE MANAGED PROJECT (2): Promotion for International Sales of Puerto Rico Specialty Coffee Products

A. Project Summary

The specialty coffee market is the target market for local coffee growers to achieve international sales. We access this market and pursue international sales through the participation in related international tradeshow, particularly those that are industry specific. Sales in higher paying markets are crucial to the survival and growth of the coffee industry in Puerto Rico since we face challenges such as decrease production due to pests and droughts as any other coffee producing country, but also higher production costs associated to utilities and labor. Nevertheless, coffee production continues to be the main agricultural activity for municipalities within the coffee producing geographical region. This project contributes to the continuous efforts of improving high quality coffee production and access higher paying markets in order for farmers to increase profit and to strengthen the industry based on locally grown coffee. As stated in the 2nd Annual Performance Report, we replaced the participation of SCAE 2015 for SCAA 2016. The SCAA 2016 Annual Tradeshow and Convention, organized by the Specialty Coffee Association of America, took place in Atlanta, Georgia on April 14-17. The event counted with over 3,000 exhibitors and more the 7,000 industry related visitors. This change was primarily due to strict financial restriction enforced within local government, especially pertaining to travel, for which travelling to Europe (where SCAE takes place) was to be unauthorized due to the higher associated travel costs. SCAA 2016 has the same purpose, scope of work and is within the budget requested and approved. In addition, has the same main goal: *Promotion for International Sales of Puerto Rico Specialty Coffee Products*. Through this project, local producers aimed to place highly rated coffee lots in higher paying segments of the specialty coffee market.

B. Project Approach

Replacing the participation in SCAE 2015 with SCAA 2016 still constitutes some prime venues to target potential buyers within our target market. Task and activities associated to the coordination are identical apart from the design and size of the exhibit space which vary depending on the location of the event. For this participation, we did not have a barista participate of the booth to serve samples; where the farmers themselves doing so. As well, we had a 200-sq. ft. display to accommodate the participating coffee firms. To coordinate this participation, the following tasks and activities were executed:

- Coordination and contraction of exhibit space with organizers
- Coordinate preparation of exhibition booth space and rental of furnishings and equipment
- Assess and select eligible potential participants
- Assign available exhibitor spaces
- Coordinate additional delegation participants (non-exhibiting) for booth attendance support and seminar participation.
- Make travel arrangements for staff and persons who attended
- Ship samples, materials, and equipment in advance

- Travel to the activity and remain at site to coordinate and provide daily assistance to participants, host booth visitors and trade leads
- Coordinate and supervise installation and final details of booth design and furnishings; exhibitor move-in before show and dismantle at show end
- Hold daily meeting with participants to coordinate materials replenishment and assessment of daily activities

C. Goals and Outcomes Achieved

The expected measurable outcomes for this participation were:

- To achieve the participation of at least (2) firms in international trade fair and exhibition activities outside of Puerto Rico and which were related to specialty coffee products.
- To achieve an increase in at least 20% of specialty coffee pounds produced
- To achieve export sales of at least \$50,000.
- To be able to measure an increase of at least 20% in export sales of high quality coffee as a result of SCAA international fair*

*In order to measure this increase, FIDA obtained current export sales from participants (which refer to the production of the previous crop year) and compare them to export sales after their participation in the tradeshow.

According to the Work Plan, and considering the replacement of SCAE 2015 for SCAA 2016, the activities and tasks to perform were the same as the events are similar in structure and nature. Same tasks as the previously stated are required for the participation in SCAA 2016.

There were (3) participating firms promoting the high quality coffee in this event. The goal of having the participation of at least (2) firms in international trade fair and exhibition activities outside of Puerto Rico and which were related to specialty coffee products was achieved.

For SCAA 2016, sales of \$50,000 were estimated by participants. Up to date, sales of 19 quintals of green coffee have been reported as a result of the participation. This represents approximate sales of \$18,000 approximately. Price per pound of green coffee range from \$7 to \$10. A quintal of green coffee equals to 100 pounds; these sales equal to 1,900 pounds of green coffee sold. The goal of reaching export sales of at least \$50,000 was not achieved.

This compares negatively to exported sales reported for the previous crop year where these coffee firms reported at least 60 quintals of green coffee sold which amount for \$64,500 approximately. Therefore, the goal of being able to measure an increase of at least 20% in export sales of high quality coffee as a result of SCAA international fair was not achieved.

The goal of achieving an increase of at least 20% of specialty coffee pounds produced was not achieved. Most specialty coffee producers, including the (3) firms participating of this project, reported a significant reduction in the total amount of coffee produced and, as a result, a reduction in specialty coffee as well. The reason why this goal could not be achieved is due to the overall

decrease in the coffee production as a result of the Roya pest outbreak which started in the latter half of year 2014 and escalated in 2015 due to the drought that affected Puerto Rico island wide. The 2015 drought was identified by the National Weather Service as the worst underwent in Puerto Rico's recent history, being the outcome of a rain deficit that started in 2013. An increase in specialty coffee production of any amount is impossible under the mentioned weather and phytosanitary conditions as the conditions required to achieve the required quality for specialty coffee entails very low pest incidence and specific temperature and humidity ranges, among other considerations. Although farmers have implemented different measures to resist or counteract these effects, this mitigation measures (like pruning for example) also imply a short to medium term reduction in production. Nevertheless, these measures are required for long term recuperation and mitigation.

Besides the measurable outcomes previously mentioned, this participation contributes to establishing new business opportunities and international relations. Participating companies reported a combined total of 30 quality trade leads obtained during the event. Creating awareness of Puerto Rico as a coffee origin country and specialty coffee producer is also achieved through the presence in these type of industry specific events where all reputable companies and coffee producing countries show case the best coffee they have to offer from their latest harvests.

D. Beneficiaries

For this event we had the participation of 3 coffee producing companies: Hacienda Tres Angeles from Adjuntas, Café Don Ruiz from Yauco, and Offeecay from Maricao. This 3 companies are farmer who process their coffee but also may purchase green coffee from farmers within their municipalities to supplement their production and processing to be able to supply demand. Therefore, it has multiplying effect in terms of the number of farmers that benefit from this participation. Therefore, more than 10 additional farmers benefit indirectly from the participation of the 3 coffee firms previously mentioned.

E. Lessons Learned

The participation in world coffee events such as SCAA continue to be instrumental for our coffee companies as they constitute a source for prime business contacts and education towards capacity building and improving their quality to access high paying markets. It also helps mitigate losses growers might have associated with production decrease due to drought and pests like Roya. Even when companies might have less coffee produced, this participations help improve or maintain a reasonable profit margin.

It is important to note that coffee production faced important challenges during the 2014 and 2015 crop years due to Roya outbreak that started in 2014 and a subsequent drought in 2015. The drought aggravated the decrease in production because, in addition to the direct effect on decrease of fruit in the plant, it also exacerbates Roya pest reproduction. We are currently still addressing and handling the negative impact this had on coffee production. Therefore, the continuity of efforts such as the one executed through this project will continue to be crucial for

farmers to gain access to higher paying markets which can allow them to improve profit margins and, as a result, have the financial capacity to invest in more intensive fertilization in order to enable crop recuperation.

F. Utilized Funds

Activity	AMS Funds	Total
Booth exhibition structure, graphic, and furnishings	\$15,751.10	\$15,751.10

G. Participation:

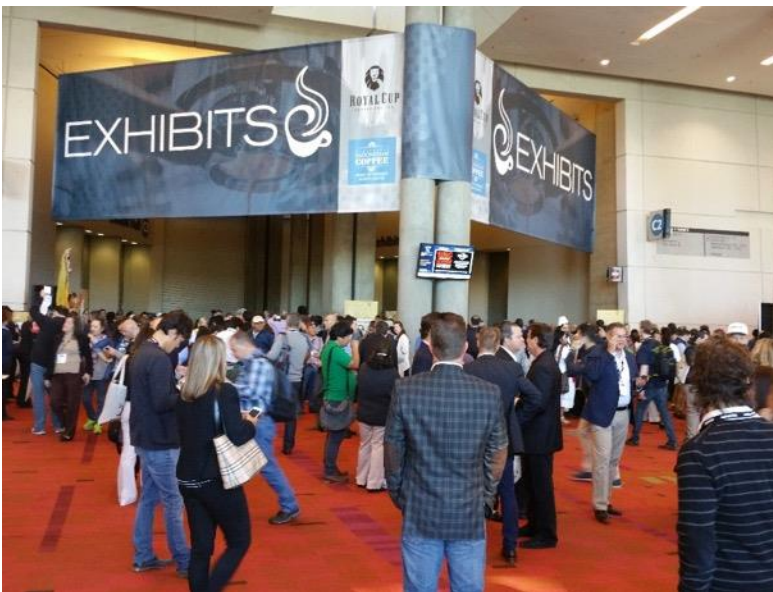


Exhibit Hall at the Georgia World Congress Center in Atlanta, Georgia. The 28th SCAA Annual Expo took place April 14-17, 2016. It counted with over 7,000 international industry related visitors and 3,000 exhibitors.

Coffee producer Abimael Ruiz from Café Don Ruiz hosting potential buyers at the Café de Puerto Rico booth and sharing brewed coffee samples for tasting.





Partial view of the Café de Puerto Rico exhibition booth. Coffee producers Alfredo Rodriguez from Offeecay and Juan Melendez from Hacienda Tres Angeles hosting potential buyers and other trade visitors.

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**STATE MANAGED PROJECT (3): Best Practices Training and Food Safety
Mentorship for Local Producers**

PROJECT SUMMARY:

The purpose of this project was to increase awareness of food safety and best practices in order to improve quality and safety for the consumers, who are considered to be the principal beneficiaries of this improvement in quality. One of the main goals of the Innovation Fund for Agricultural Development and Department of Agriculture is to offer trainings to specialty crops producers, related to food safety, best manufacturing processes and best agricultural practices. The trainings should ultimately lead to a more uniform quality image for our local production. The project was considered important and timely since it was the proactive way that local producers could prevent the continued occurrence of food borne illness incidents that each day bears more risk of affecting the consumption of their products. In addition, we continued to see regulatory agencies (for example, USDA & FDA) take more strict postures and actions towards food safety issues. We perceived that many producers needed to enhance their consciousness and knowledge of food safety and quality and improve their practices during and after production, including processing, to be able to make a quality claim that could maintain their competitiveness in the face of imported products. Having quality protocols became a requirement that mayor clients pressed upon their suppliers firms, and in this manner, quality and food safety trainings impacted access to points of sales to consumers.

PROJECT APPROACH:

During the 3 years grant period, the Innovation Fund for Agricultural Development provided workshops on how to prepare and implement such quality and safety assurance programs, thus, our local efforts have a strong support to enter highly competitive markets

This effort helped local Specialty Crops producers and farmers to enter new market opportunities. Puerto Rico farmers are mostly Specialty Crop producers by default, a tropical climate and small supply and heavy demand of short shelf life products will have a great impact on the need of producing these crops. Many young and beginning farmers are attending to the need of producing vegetables and fruits for local markets as an alternative for economic development. For this main reason, we attended many young farmers through strategic marketing as well as mentorship programs to make sure the correct improvement of the specialty crops industries. Producers that were involved in capacity training were mainly producers of the following specialty crops: lettuce, tomato, microgreens, tubers, plantain, banana, orange, citrus fruits, exotic fruits, coffee and cacao. Our request for participation was done through regional offices and department officials that made sure that all participants were specialty crop producers.

Training phases for beginning farmers, producers and agricultural workers

FIDA- Department of Agriculture Work Plan	September 2013 October 2013	Recruitment of participants (farmers and producers)
Good Agricultural Practices Training	AMS 18, 19, 20 March 2014 <i>Local Matching 4,5,6 March 2014</i>	Training to farmers and producers
Next Level Training	September - October 2013 May 2015	Training to farmers and producers
Strategic Marketing	November-December 2013	Training to farmers and producers
Agricultural Workers	March 2014 April 2014 May 2014	Training to agricultural workers

Good Agricultural Practices Training – *Buenas Practicas Agricolas* - A series of workshops and conferences that attended producer needs in the capacity building for better food safety practices and management for farm operations. These conferences attended issues for new federal food regulations including the Food Safety Modernization Act (FSMA), Food and Drug Administration Regulations, Local Health Agency Regulations, Food Handling and additional Product labeling information. Farmers were certified in these workshops and applied their new set of skills improving their farm yields as well as their economy by establishing better sale agreements with clients.

Specialty Crops producers were encouraged to establish better handling and traceability applications on their farms and other industry related producers.

Strategic Marketing – Producers were trained in the areas of Marketing and the importance of creating awareness of their product and type of agri-business. These strategies allowed farmers to establish a more successful farm business.

Next Level – Many producers in the island have a great know how for production of farm goods, however, many are not skilled in management and administration of their farm. These conferences were established in order to promote better administration practices and taking their production to the next level. Many of the farmers that participated in this program were not aware of many of the income loss in a low efficiency operation as well as a low technology farm. This training helped to promote better administrative practices.

Agricultural Workers – Attended issues from good agricultural practices, food safety, as well as orientation for allowing workers to evolve to farm projects of themselves.

GOALS AND OUTCOMES ACHIEVED:

The project proposed was 100% completed. Every year new, beginning farmers and new agricultural business are created; reason why FIDA continuous capacity building activities are needed. All farmers and agricultural workers learned about the Best Practices for Quality and Food Safety. As result of the project, farmers and producers entered new market opportunities with the new agribusinesses knowledge and increase their sales through the Family Farmers Market (Mercado Familiar).

The Mercado Familiar was heavily impacted by our program of capacity building, thus having farmers that participated in the conference establish sales through the Family Market.

Agricultural Workers



Next Level



BENEFICIARIES:

Beneficiaries	Quantity
Farmers and Producers	127
Agricultural Worker	25

During the whole 3-year period, 152 specialty crop farmers, producers and agricultural workers participated and benefitted from the courses. This means that the project is well perceived and received, and that there is a real need to train the farmers and producers in such areas. All 152 eligible producers received certificates. Individualized food safety mentorship was given to approximately 52 trainees, and individualized agribusinesses mentorship was given to approximately 75 trainees.

List of Participants that established direct sales in new market opportunities increasing sales by 50% or more after participating in **Best Agricultural Practices**. They are currently participating in the *Programa de Mercado Familiar* initiative (Family Farmers Market).

Last year, the *Programa de Mercado Familiar* increase in sales reaching more than 50 million dollars in revenue, from previous sales of only 20 million dollars in revenue. As a requirement for establishing sales in this market is to have participated in a Good Agricultural Practices workshop or certification.

1. Andres De Jesus Rodriguez
2. Angel Alicea Aponte
3. Anibal Rivera Fuentes
4. Hector L Torres Torres
5. Rene Cruz
6. Hiram Figueroa Cabrera
7. Jedan Rivera Rodriguez
8. Jorge C Colon
9. Jose I Romero Marrero
10. Jose M Colon Santos
11. Luciano Rodriguez Rivera
12. Joan D. Rivera Reyes
13. Luis F. Rubero Peña
14. Luis I. Melendez Melendez
15. Hector X. Torres
16. Sonia Cintron Saez
17. Frankie Zayas Cordero
18. Jose Alicea Sanchez
19. Axel Medina Caraballo
20. Shaliana J. Ingles Torres
21. Francisco Roman Medina
22. Francisco Roman Soto
23. Modesto Velazquez Mendez
24. Zabulon Mercado Santiago
25. Herminio Paoli Fuster
26. Ivette Pagan Rivera
27. Bernardo Lopez Lopez
28. Jorge R. Tirado Lopez
29. Jocelyn Acosta Padilla
30. Jose A. Cordero Fraticelli
31. Jose L. Barreto Fuentes

A total of 51% of all participants established new market opportunities and increase their sales.

Seguen en Mercado Familiar

Instituto de Inocuidad de Alimentos						
HOJA DE ASISTENCIA						
Taller: "Buenas prácticas agrícolas y manejo pos cosecha"						
18, 19 y 20 de marzo de 2014 @ Agropecuario, Cayey, PR						
Nombre del participante	Firma 18mar14 AM	Firma 18mar14 PM	Firma 19mar14 AM	Firma 19mar14 PM	Firma 20mar14 AM	Firma 20mar14 PM
Andrés De Jesús Rodríguez	ARDJ	ARDJ	ARDJ	ARDJ	ARDJ	ARDJ
Ángel Alicia Aponte	AA	AA	AA	AA	AA	AA
Anibal Rivera Fuentes	ARF	ARF	ARF	ARF	ARF	ARF
Antonio Sánchez Camacho	ASC	ASC	ASC	ASC	ASC	ASC
Gisela Ramírez	GR	GR	GR	GR	GR	GR
Héctor L. Torres Torres	HTT	HTT	HTT	HTT	HTT	HTT
Hiram Figueroa Cabrera	HFC	HFC	HFC	HFC	HFC	HFC
Jafer Padua	JP	JP	JP	JP	JP	JP
Josán Rivera Rodríguez	JRR	JRR	JRR	JRR	JRR	JRR
Jorge C. Colón	JCC	JCC	JCC	JCC	JCC	JCC
José I. Romero Marrero	JRM	JRM	JRM	JRM	JRM	JRM
José M. Colón Santos	JMS	JMS	JMS	JMS	JMS	JMS
José Rodríguez Casanova	JRC	JRC	JRC	JRC	JRC	JRC
Juan de Dios de Jesús	JDJ	JDJ	JDJ	JDJ	JDJ	JDJ
Luciano Rodríguez Rivera	LRR	LRR	LRR	LRR	LRR	LRR
Joan D. Rivera Reyes	JDR	JDR	JDR	JDR	JDR	JDR

Instituto de Inocuidad de Alimentos						
HOJA DE ASISTENCIA						
Taller: "Buenas prácticas agrícolas y manejo pos cosecha"						
18, 19 y 20 de marzo de 2014 @ Agropecuario, Cayey, PR						
Nombre del participante	Firma 18mar14 AM	Firma 18mar14 PM	Firma 19mar14 AM	Firma 19mar14 PM	Firma 20mar14 AM	Firma 20mar14 PM
Luis F. Rubero Peña	LFRP	LFRP	LFRP	LFRP	LFRP	LFRP
Luis I. Meléndez Meléndez	LIMM	LIMM	LIMM	LIMM	LIMM	LIMM
Orlando Sánchez	OSC	OSC	OSC	OSC	OSC	OSC
Rafael de Jesús - Hechex Tor	RJHT	RJHT	RJHT	RJHT	RJHT	RJHT
Rene Cruz	RC	RC	RC	RC	RC	RC
Sorimar Rodríguez Ortiz	SRO	SRO	SRO	SRO	SRO	SRO
Steven Febus	SFN	SFN	SFN	SFN	SFN	SFN
Wilfredo Sánchez Rivera	WSR	WSR	WSR	WSR	WSR	WSR
Zuleika Suárez	ZSC	ZSC	ZSC	ZSC	ZSC	ZSC
Franklin E. Sánchez	FES	FES	FES	FES	FES	FES
Jose A. Sánchez	JAS	JAS	JAS	JAS	JAS	JAS

Instituto de Inocuidad de Alimentos						
HOJA DE ASISTENCIA						
Taller: "Buenas prácticas agrícolas y manejo pos cosecha"						
4, 5 y 6 de marzo de 2014 @ Edificio Darlington						
Nombre del participante	Firma 4mar14 AM	Firma 4mar14 PM	Firma 5mar14 AM	Firma 5mar14 PM	Firma 6mar14 AM	Firma 6mar14 PM
1. Alejandro Benítez Forján	ABF	ABF	ABF	ABF	ABF	ABF
2. Axel Medina Canaballo	AMC	AMC	AMC	AMC	AMC	AMC
3. Carlos A. Pérez Díaz	CPD	CPD	CPD	CPD	CPD	CPD
4. Dorelia I. Comas Benavides	DCB	DCB	DCB	DCB	DCB	DCB
5. Dorelia Benavides	DB	DB	DB	DB	DB	DB
6. Eduardo A. Hernández Ramos	EAR	EAR	EAR	EAR	EAR	EAR
7. Shailene J. Ingles Torres	SIT	SIT	SIT	SIT	SIT	SIT
8. Francisco Roldán Medina	FRM	FRM	FRM	FRM	FRM	FRM
9. Francisco Roldán Sub	FRS	FRS	FRS	FRS	FRS	FRS
10. Héctor Menéndez Crespo	HMC	HMC	HMC	HMC	HMC	HMC
11. Henry Martínez Olivera	HMO	HMO	HMO	HMO	HMO	HMO

Instituto de Inocuidad de Alimentos						
HOJA DE ASISTENCIA						
Taller: "Buenas prácticas agrícolas y manejo pos cosecha"						
4, 5 y 6 de marzo de 2014 @ Edificio Darlington						
Nombre del participante	Firma 4mar14 AM	Firma 4mar14 PM	Firma 5mar14 AM	Firma 5mar14 PM	Firma 6mar14 AM	Firma 6mar14 PM
24. Modesto Velázquez Méndez	MVM	MVM	MVM	MVM	MVM	MVM
25. Noel R. Pagan Vega	NPV	NPV	NPV	NPV	NPV	NPV
26. Sergio Cocino	SC	SC	SC	SC	SC	SC
27. Víctor Arezto	VA	VA	VA	VA	VA	VA
28. Zuleika Méndez Santiago	ZMS	ZMS	ZMS	ZMS	ZMS	ZMS
29. Jonathan Chaparral Pérez	JCP	JCP	JCP	JCP	JCP	JCP

HOJA DE ASISTENCIA
Taller: "Buenas prácticas agrícolas y manejo pos cosecha"
 4, 5 y 6 de marzo de 2014 @ Edificio Darlington

[illegible]

LESSONS LEARNED:

The main lesson learned with the implementation of this project is that farmers and producers have a real need of being trained in areas such as Best Agricultural Practices; Best Manufacturing Practices; Best Practices during Distribution and Transport; as well as in areas of food quality. In the future, we need to work to implement written food safety protocols in the firms.

CONTACT INFORMATION:

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787-723-9090, x-2410

STATE MANAGED PROJECT (4): Increasing Local Production and Facilitating the School Market Access for Local Lettuce and Other Green Vegetable Farmers/Producers, through Encouraging their Participation into the “Programa de Lechuga y Otras Hortalizas” from the Department of Agriculture of PR

Project Summary

This project had as a general purpose to work with farmers/producers, in order to encourage and assist them in the development of the “Programa de Lechuga y Otras Hortalizas” (Lettuce and other Vegetables’ Program) from the Puerto Rico Department of Agriculture, as well as to incorporate experiential nutrition education activities that could encourage the participation of school students in farm and garden based activities.

All of the scope of this project had goals to amplify and increase the production of local green vegetables to be served in school lunch serves, through capacitation of local green vegetable producers and DE officials regarding safety & quality, and post-harvest procedures; to encourage other farmers to integrate into the cultivation of a more wide variety of green vegetables; and as well, also to integrate school students into the experience of cultivate green vegetables. All of the capacity building phase directed to farmers and producers, as well as to DE school officials, is in order for them to learn about how to properly handle food to be served through the school lunch program, gaining at the same time access to this important market.

The educational phase related to Capacity-Building Project carried out a general upgrading of the food safety and quality aspect to enhancing the marketability of local lettuce and other green intense color vegetable production. Farmers benefited from the training courses, been trained in the safety, management and post-harvest aspects related to the new agricultural products they will be harvesting. Thus, our local training efforts having a strong need for support, in order for farmers to compete in the institutional and private market.

Establishing a Seed Plan for farmers and coordinating their initial sales as well as future volume sales for institutional markets, we were able to organize the vegetable and lettuce producers of the island.

Given the fact that Puerto Rico has a tropical climate with many weather variations including high summer temperatures, drought issues and no winter that reduces pest problems; farmers found themselves dealing with many situations affecting directly their farm yields. With the intention to reduce many of these situations we contacted each farmer and put them in contact with technical support from the University of Puerto Rico and their plant pathology laboratory. Many of these farmers were not able to supply there quota, however, they are now back in production after losing many of their crops and thanks to the coordination of this project.

With the farm visits by the Department of Education and children from the nearby schools we were able to promote lettuce and other vegetable productions from local farms as well as having an impact on future farmers of the community. Many of the children that participated did not know how the lettuce was produced in Hydroponic system as well as the logistics involved in this process. For some it was a first-time experience and for others was part of their future plans after high school education.

It was the first time this project was implemented in the Island of Puerto Rico and many farmers were able to increase their sales by more than 50%, some of the farmers stated that the coordination of this project is key in the development and organization of the vegetable industry.

Project Approach

The Innovation Fund for Agricultural Development established workshops for all the participants in supplying vegetable goods to the Public School's system and the institutional market. This allowed farmers to comply with federal and local food safety regulations as well as optimizing their yields and income.

The Innovation and Commercialization Office of the Puerto Rico Department of Agriculture was able to establish a sowing phase and strategic distribution plan with accordance with the Nutritional Scholastic Food Authority and the Agricultural Regional Administrations. At first establishing the highest demand for the local lettuce variety "Tropicana Lettuce" mostly produced in the island and available throughout the year. Secondly the Romaine variety as well with a reduction on the quantity of servings and, finally but not least, the Mezclum leafs for salads and combination.

In the process, we identified other lettuce varieties as well as testing for Spinach and Iceberg Lettuce, however, this activities were not implemented due to lack of volume production and issues establishing weighted packaging.

Sowing phase implementation

<u>Objective</u>	<u>Activity</u>	<u>Responsible Person</u>	<u>Necessary Resources</u>	<u>Observations/timeline</u>
"Plan de Siembra" (Sowing Plan)	Define the seed plan for the local and the romaine lettuce Define farmers participants and amount	Department of Agriculture Area Director Department of Agriculture Area Director	Scholastic Food Authority ADEA Agricultural Regions FTS Program Assistant Coordinators	Establish seed of local and romaine lettuce for the 2013-2014 school year Define a 2 nd group of farmers to seed Nov-Dec/2013 Define a 3rd group of farmers to seed 2014

One of the varieties that most farmers are beginning to bring to the local fresh produce market is the *Salanova* Lettuce Varieties, for its great shelf life and commercial acceptance. The first semester of the year 2015 statistics were as follows:

- Tropicana Lettuce (16 Units of 12 Oz Each per Box)
- Romaine Lettuce (16 Units of 11 Oz Each per Box)
- Mezclum Leaf Mix (6 Units of 16 Oz Each per Box)

Final coordinated quantity before each purchase

<u>Regional Center</u>	<u>Tropicana Lettuce</u>	<u>Romaine Lettuce</u>	<u>Mezclum Leaf Mix</u>
San Germán	628	397	340
San Sebastián	662	353	450
Ciales	703	332	463
Naranjito	1862	649	1501
Cayey	1793	1125	1366

Patillas	1368	662	870
Rio Grande	955	426	714
Total	7,971 Boxes*	3,944 Boxes*	5,704 Boxes*

Farm Visits

In the effort of assuring better quality and good agriculture practices, we have followed through with visits to many of the farms that are currently participating in the school market program. Many of the farmers are applying techniques learned in the good agriculture practices workshop and some need assistance in establishing most of these practices, therefore we personally assist farmers in doing so. In addition, we have assisted in informing of local incentives from the local farm investment program and other federal assistance as well.

Iceberg Lettuce Initiative

We have continued the efforts of establishing other green leaf production and Iceberg Lettuce. In this effort we include our combined effort with the Syngenta Foundation, Arcos Dorados (McDonalds Latin America), local University Research as well as local farmers doing test with NFT and Soil production. We have yet to establish farm productions of Iceberg lettuce for commercial applications, however, many of the issues are related to climate, pest and farm practices. We are combining efforts with all of the public and private agencies in this project, in order to establish professional resources for this specific matter. This will allow training local agency agronomists in this matter and duplicating the educational resource available in the island.



Public School and Department of Education Schools Farm Visit

The Innovation and Commercialization office as well as the Innovation Fund for Agricultural Development of Puerto Rico, was able to take students from school to farm visits and show them the full process of logistics and distribution as well as the production aspect of producing lettuce in open field as well as hydroponic system vegetables. In these visits we were able to assist to close to 15 farms and 18 schools impacted throughout the project.

Goals and Outcomes Achieved

FIDA planned and executed all activities reported in this project. With the completion of 100% of its objectives. All participants attended training sessions to a 100% and learned about GMP, GAP and Food Safety as well as other administrative recommendations by the project subordinators.

Many of the Department of Education officials were able to assist and incorporate themselves into activities related to school to farm visits as well as a training realized by the subordinator of this project.



All farm participants and trainees were integrated at some time into the institutional market and into the school food supply chain market.

In the school to farm visits 18 schools attended local farms with an approximation of 500 students in total and 7 school regions.



We were able to finally produced Iceberg Lettuce in Hydroponic systems with a 80% yield in the process of cutting for quick service restaurants. In this case McDonalds was our partner in this initiative.



Beneficiaries

Beneficiaries	Quantity
Farmers/Producers	78
Students	500 Students (Directly Impacted by Visits)
Department Education and Agriculture Officials	15

Throughout the project we were able to measure the direct impact on farmers (78) with workshops, training, establishing sowing plans and other initiatives. However, we are certain that indirectly we could impact over 150 hydroponic and vegetable growers, and motivated around 30 new beginning farmers to join the hydroponic and vegetable industry. For this and many other reasons we strongly assure the success of this project in Puerto Rico. With over 200,000 students from the Department of Education of Puerto Rico been benefited from this initiative we are certain of handing down to our generations to come a responsibility of producing and consuming fresh local lettuce as well as vegetables.

Lessons Learned

The task of producing vegetable goods and promote great marketing skills are a must in the production of specialty goods such as lettuce. The coordination and input from the specialists and other resources from the Puerto Rico Department of Agriculture led this project to a complete success. Mostly because farmers are mainly dedicated to producing and are in some cases not aware of the changes in the logistics of sale and presenting products to prospects and clients.

Farmers are also not organized between them and this does not allow for a fair competition or tradeoff for clients. For these reasons, we learned that the coordination for sales and training for quality will allow for a restructuring of any farm industry suffering from low yields and low income.

The Education process at early ages must include a farming aspect to promote healthier eating habits as well as to encourage teens to invest and strive to be farm professionals.

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SUB GRANTEES PROJECTS

State Agency FIDA included, as part of proposed work plan, the approval and subsequent administration of sub grants developed by partner entities solely to enhance the competitiveness of specialty crops produced in PR.

The required sections are presented for each of the Sub Grantees projects (that are currently operating) in the next pages of this report.

SUBGRANTEE PROJECT (1): APIARIOS CARABALLO

Project Title: *Promoting Honey Production and High Yields in Specialty Products*

Project Summary

The project consisted in increase the honey production in Puerto Rico and to improve the production of vegetables by bee pollinations. The project *complete the training and performance cycle of eighteen (18) months consisting of technical knowledge and equipment to beginning honey producers*. After receiving a formal training of twenty four (24) sessions, fifty five (71) complete beehives will be distributed among the twenty five (25) participants.

Vegetable growers implemented bee hives at their farms in order to learn the importance and the role of the honey bees, also having the opportunity to compare their crops yields before and after beehives.

Apiarios Caraballo bought honey production from participants and assisted them with technical coaching at their sites during the project period. The implementation of this project had two direct beneficiaries;

- **Honey as well as Vegetable Producers** with the increase of crop yields.
- **Ten (10) Honey Producer** (beekeepers) and fifteen (15) well established **Vegetables Producers**.

Project Approach

The following summarizes the activities performed by the sub grantee:

1. Educational Program/activities performed from January through June 2016 was 100% COMPLETED)
 - *How to get the bees and prepare for them* January 15 2015
 - *Working Bees* January 23 2015
 - *Bees Packets* January 30 2015
 - *Feeding Bees* February 6 2015
 - *Managements according to the season* February 13 2015
 - *The queens and queen rearing* February 27 2015
 - *Special handling problems* March 13 2015
 - Practices in farm. 3 times in April 2015 and 4 times May 2015
 - Pests and diseases of bees. May 2015
 - Honey and extractions process June 2015
 - Products from the hive. June 2015
 - Pollination and bee plants. March 2015

The Sub Grantee was able to find a guide book in Spanish: “El Manual del Apicultor de Diana Sammataro y Alphonse Avitabile publishing house junio 2005; for this reason some of the topic’s name were changed.

2. Built up beehives and gathering materials: All beehives (55) were assembled and (16) additional were assembled and accomplished.
3. Establishment of beehives at farms: By December 2016 all the beehives were established.
4. Visits to farmers in order to provide coaching and gathering information: The grantee indicates that the new beekeepers and vegetables growers has need more assistant time and they are continuing offered, because the project had a delay because the drought during 2015 and now if their first important pollination impacting in vegetables (watermelon and squash), coffee and exotic fruits (rambutan, mangostin, star fruit and lichen).

Goals and Outcomes Achieved

The grantee completed all the training sections, bee hive construction, establishment and replacement of beehives. The grantee indicates that next vegetable season with established bee hives is from (January to May 2017). Apiarios Caraballo will collect all the data of flowers pollinates and compare with the last year to measure the performance of the project. Also at the end of the season the grantee will compare if an increase of production occur. The grantee has comprised to continuing development the honey production locally and reporting for further measures.

The project consisted in complete a training and performance cycle of eighteen (18) months consisting in provide to established vegetable farmers and new beekeepers the technical knowledge and equipment to start themselves as honey producers, in the case of the ten (10) new beekeepers, this activity was completed to a 100%.

However, in order to compare their crops yields before and after beehives Apiarios Caraballo agreed to report to the Innovation Fund for Agricultural Development on May 2017 updates regarding the Increase in yield productions. Due to changes of work plan timing, drought conditions during the 2015 and heavy rain conditions during 2016 that affected vegetable crops yield measurements are inconclusive. For this reason increase in yields will be measured after this report. **(January 2017 – May 2017).**

The fulfillment of goals was to be measure as follows:

Goal	Benchmark	Performance Measure	Target
Increase vegetable yields by placing beehives at farms	Will be established by a survey at the beginning of the first session – where participants indicate their current yields.	15% of yield increase	75% of participants indicate an increase of yield over the time of project.
Increase of Honey bee to be bottle	Will be established by a survey at the beginning of the first session – where participants indicate their current honey production.	20% of production increase	40% of participants indicate an increase in honey production to be bottle.

Beneficiaries

The new beekeepers and 12 vegetables and exotic fruits growers were impacted; and 3 coffee producer. Also another farmers in the area of the project: Juana Diaz, Guanica, Aguas Buenas, Penueles, Yauco, Las Marias, Jayuya, Dorado, Cabo Rojo, Guayanilla, Sabana Grande, Morovis, Bayamon y Corozal.

The farmers direct impacted was:

- Juan Ruiz Rodriguez
- Samuel Alicea Ruiz
- Ismael Sierra Concepcion
- Pedro Sierra Concepcion
- Nicolas Sierra Concepcion
- Sigfredo Viera
- Hector Ortiz Rivera
- Jose I. Feliciano Santana
- Alberto Rodriguez Figueroa
- Alberto Rodriguez Saez
- Roberto Rodriguez
- Miriam Quintana Gonzalez
- Efrain Perez Rodriguez
- Angel E. Gonzalez Delgado
- Carmen Santiago De Leon
- Alexander Velazquez Santiago
- Edwin Guzman
- Victor M. Santana
- Javier Blondet
- Isabel Diaz Gomez
- Cesar Reyes Guzman
- Pedro Torre
- Jaime Acevedo
- Carlos Gonzalez.

Lessons Learned

Participants had the opportunity to establish bee hives at their farms with recommended bee hive management practices and recommended handling procedures. Also, participants were able to innovate in sale of Honey Byproducts and the importance of problems that may affect the industry.

Farming activities related to vegetable productions and increased in yield (UPDATED)

During the months of January, February, March; we followed up the participant's hives. In terms of yield, some of the participants were able to harvest at least 4 gallons of honey. Another 7-participants reported that their hives are swarming, so we are looking for alternatives to replenish them. We have a delay in crops especially of melons and pumpkins. By the end of April 2017, we expect the melon blossom that is where we want to focus.

Activity	Grant Portion	State Match
<i>Promoting Honey Production and High Yields in Specialty Products</i>	\$18,162.33	\$18,162.33

Ricardo Caraballo

APIARIOS CARABALLO – apiarioscaraballo@gmail.com

SUBGRANTEE PROJECT (2): PLENITUD INICIATIVAS ECO-EDUCATIVAS, INC.**Project Title:** Bio Ponics in PR, Demonstration and Educational Outreach**Project Summary**

The non-profit organization Plenitud PR developed an innovative and sustainable method of specialty crop production known as “Organopónicos” with research and assistance from agronomists and engineers. A demonstration system was constructed and trialed for 2 years to gather performance data on various specialty crops. This demonstration system includes a greenhouse structure, worm compost system, thermal compost area, aerated compost tea brewers, and a rainwater collection and irrigation system. With assistance from consultants, agronomists, engineers, farmers, and the Sea Grant Program, a curriculum for an intensive workshop series was developed and a 100-page educational manual was created and published. The intensive workshop series was offered 4 times at 3 sites in Puerto Rico to train 87 participants; 1-day introductory workshops were offered to 78 participants. 120 individuals were exposed to the demonstration system through educational tours. The workshops and educational manual impacted both beginning and established specialty crop farmers as well as students and home-gardeners. All of the intensive workshop participants positively indicated their intention to apply the technologies they learned, resulting in increased sustainability, diversity, and resilience in their specialty crop production systems. Additionally, an extensive media outreach program was executed, educating consumers and producers through television, radio, print, and online media about the “Organoponicos” system and the importance of specialty crops to society and the environment. This media outreach program impacted an estimated 250,000 project beneficiaries. Workshops and site visits will continue to impact and educate producers and consumers who visit Plenitud’s teaching center for years to come.

Project Approach**Objectives:**

#	Objective	Yes	No
1	Design and implement a demonstration “organoponics” system.	x	
2	Impact consumers, raising awareness about targeted specialty crops and increasing demand through a Media Outreach program that includes publications, presentations, radio interviews, and participation in television programs.	x	
3	Empower beginner and socially disadvantaged farmers to utilize organoponics technology to efficiently produce targeted specialty crops and ensure good agricultural practices through workshops, the demonstration system, and educational materials.	x	

Challenge	Corrective Actions
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The technology that was originally proposed for the demonstration system (bio-ponics) was trialed, and found to be ineffective and not conducive to producers in rural areas due to its complexity and dependence on electricity (there are frequently power outages in the rural areas of PR).	The project team and consultants worked together to trial several systems, and continued to modify the demonstration system until a suitable growing method was developed. The name of the growing technique was changed to “organoponics” to more accurately reflect the demonstration system that was developed.
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Goals and Outcomes Achieved

The demonstration system will continue to be operated at Plenitud’s teaching center, providing a crucial component in the organization’s educational mission.

The educational manual will be improved and expanded upon with new information on marketing and the use of specialty crops in value-added products. The manual will be re-published and made available for free online download from Plenitud’s website in order to continue the dissemination of the Organoponics system and technology and the education of producers and consumers about the benefits of specialty crops.

The curriculum of the intensive workshops will be modified and improved upon to reflect feedback from workshop participants and continued observations made from the demonstration system. The workshop series will be offered again to the public in the future; this will be much easier because of the existing curriculum and educational manual.

Outcomes and indicators/ sub-indicator:

Outcome #5 was measured for this project:

- x “Outcome 5: Enhance the competitiveness of specialty crops through more sustainable, diverse, and resilient specialty crop systems”

A demonstration system for intensive production of organic vegetables was researched, trialed, and developed during the first phase of this project. The resulting specialty crops system was named “organoponics”, and is comprised of several technologies and management practices that are certain to contribute to the sustainability, diversity, and resiliency of the specialty crops production systems.

Some of the techniques and technologies taught include:

- production and application of high-quality, thermally-regulated compost and aerated compost tea (recycles waste products from the farm and increases soil health and fertility);
- management of worm composting systems and the application of worm compost to the soil (recycles waste products from the farm; increases soil health and fertility; and creates potential side-income from sale of compost worms);
- collection of rainwater in storage tanks or ponds and utilization in irrigation systems (increases the resiliency of the specialty crops production and contributes to soil health and fertility);

- design and construction of high-tunnel greenhouse structures (increases the resiliency by protecting the crops from excessive rain and allowing for controlled irrigation);
- proper utilization of polyculture systems (also known as “companion planting”) that include several crops that are in demand, including organically produced kale, arugula, bok choy, and more (increases the diversity of specialty crops production).

Data Collection:

All participants of the *Intensive Workshop Series* were asked to fill out an Evaluation Form in which they answered several questions regarding their experience of the workshops and the likelihood that they would put into practice the technologies and management systems taught. Below is a list of the questions that were used as an indicator of “*Outcome #5*”:

- *Do you intend to apply the knowledge of specialty crop management systems learned during this workshop to your agricultural enterprises?*
- *Did this activity increase your knowledge of specialty crop management systems?*
- *Did this workshop increase your access to new resources and technologies?*
- *Will you be able to apply the skills learned in your agricultural operation?*

The evaluations were collected from participants at the end of the workshop, and the results were tallied and quantified (percentage of participants that answered “Yes” or “No”). It was found that of the 78 participants of the Intensive Workshop Series that completed evaluations, *100% of the participants answered “Yes” to the four questions listed above, positively indicating their intention to apply the technologies and management systems learned.* As presented above, it is understood that producers who implement the skills acquired in the workshops will benefit from an increase in the sustainability, diversity, and resiliency of their specialty crop production systems.



Accomplishments:

Accomplishment/Impact	Relevance to Objective, Outcome, and/or Indicator
Designed and implemented a demonstration <i>organoponics</i> system (including worm composting systems; thermal compost; compost tea; rainwater harvesting; irrigation systems; greenhouse structure; and propagation, maintenance, and harvest of specialty crops)	Utilized as a teaching resource in workshops and site visits, thereby helping to empower beginner and socially disadvantaged farmers to utilize <i>organoponics</i> technology to efficiently produce targeted specialty crops and ensure good agricultural practices.
Developed and published a 100 pg. illustrated manual including design specifications, management practices, and operation of <i>organoponics</i> system.	Helped to empower beginner and socially disadvantaged farmers to utilize <i>organoponics</i> systems and supplement the information taught during the workshops.
Executed a broad and far-reaching media outreach program including 2 radio interviews, participation in 2 television programs (demonstrating <i>organoponics</i> technologies); production and online distribution of 1 promotional video	Impacted consumers, raising awareness about targeted specialty crops and increasing demand for these products; promoted the workshop series and educational site visits to producers and beginning farmers.
Publication of 6 educational articles in local newspapers, magazines, and online media sources	Impacted consumers, raising awareness about targeted specialty crops and increasing demand for these products; promoted the workshop series and educational site visits to producers and beginning farmers.
Participation as a guest speaker in 10 conferences, promoting specialty crops consumption and findings from the project	Impacted consumers, raising awareness about targeted specialty crops and increasing demand for these products; promoted the workshop series and educational site visits to producers and beginning farmers.
Received 8 different groups for educational site visits to tour and learn from the <i>organoponics</i> demonstration system	Impacted beginner and socially disadvantaged farmers by stimulating interest in <i>organoponics</i> systems and helped to empower them to utilize the technologies in their production of specialty crops.
Offered (3) Introductory Workshops (1 day each)	Empowered beginner and socially disadvantaged farmers to utilize <i>organoponics</i> systems and ensure good agricultural practices in production of targeted specialty crops.

Offered (3) Intensive Workshop Series (3 days of instruction)	Empowered beginner and socially disadvantaged farmers to utilize <i>organoponics</i> systems and ensure good agricultural practices in production of targeted specialty crops.
Offered (1) Extensive Workshop Series (12 days of instruction)	Empowered beginner and socially disadvantaged farmers to utilize <i>organoponics</i> systems and ensure good agricultural practices in production of targeted specialty crops.

Beneficiaries:

Number of project beneficiaries: 285

Total project beneficiaries directly impacted through workshops and educational site visits: 285

- Visitors for Educational Tours at the Demonstration Site: 120 visitors (students, farmers, and general public)
- Introductory Workshops: 78 participants
- Intensive Workshop Series: 87 participants

Total project beneficiaries impacted through Media Outreach (estimated): 257,320

- Participation as guest speakers in conferences: 320 consumers and producers impacted
- 2 Radio talks: 15,000 consumers and producers impacted
- 2 Television programs: 40,000 consumers and producers impacted
- 1 Promotional and educational video (Youtube, Facebook): 2,000 consumers and producers impacted
- Publications of articles and educational manual: 200,000 consumers and producers impacted.

Lessons Learned:

- Many changes and modifications were made to the demonstration system during the initial phase of design and development. The project personnel learned that it is important to start with small-scale, low-impact models when trialing innovative technologies and management systems.
-
- The project personnel learned that in order to accurately quantify measureable outcomes for educational projects, it is important to administer pre-and post-workshop diagnostic tests and evaluations to the participants.

CONTACT PERSON:

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SUBGRANTEE PROJECT (3): CORTÉS HERMANOS, LLC (FORMER NUTRICARIBE, INC.)
Project Title: Implementation of Fine Quality Cacao (Theobroma cacao L.) in Puerto Rico

Project Summary

We are in contact with Mr. Juan P. Obregon in Cortes Hermanos, LLC, he will be submitting a revision of his FINAL PERFORMANCE REPORT. (We will submit as soon as received).

The principal project's goal was to develop initial a successful fine cacao industry in Puerto Rico, through the use of the fine cacao clone collection and data in USDA-ARS Mayaguez; subsidized the high costs associated with producing 10,000 grafted cacao trees; educated and trained new farms in this crop and bring a real and sophisticated market for this fine cacao product through the experience of Nutri Caribe, Inc. (Chocolate Cortés) y Jeanmarie Chocolat, Inc. This project helps to attend the increased demand for fine quality chocolates and the favorable prices offered for fine quality cacao with prices that can triple the price for conventional cacao, which can compensate the elevated costs of production in Puerto Rico and the Puerto Rico has favorable conditions for the production of the finest quality cacao and the use of cacao collection in PR.

Project Approach

1. Host Development: This activity refers to the development of the grafts patron before to proceed with the grafting. This phase was completed and executed since the beginning of the project in December 2013 through February 2015.
2. Grafting Stage: This activity refers to the process of grafting the 10,000 trees that initiated at the fourth month of the project in March 2014 through February 2015.
3. Grafting Development: This activity refers to the development of the grafts in the nursery and delivered in optimal state to be sowed in the farms. This phase initiated after the commencement of the grafting in March 2014 and ended in June 2015.
4. Distribution of Grafted Trees: This activity refers to the distribution of grafts among the farmers during the following dates:

Date	Activity
December 4, 2014	Distribution of 2,196 grafts
March 7, 2015	Distribution of 2,646 grafts
June 27, 2015	Distribution of 2,319 grafts

- Two technical workshops were given throughout the projects implementation timetable. The first was a grafting workshop where an exper commercial grafter from Dominican Republic was brought to Puerto Rico to show the greenhouse responsible for the project execution how to increase their efficiency and productivity in cacao grafting. The workshop was free of charge for everyone that participated. Over 20 people participated including the owners of the greenhouse responsible for the production of the proposal, most of the farmers included in the proposal, and other potential farmers and greenhouse owners interested in including cacao in their agriculture operations as a means of commerce.
- The second workshop was with an export cacao grader and taster from the United States. The purpose of this workshop was to teach the famers the best planting and maintenance

practices in their farms to ensure the best quality and most value to their end product. The workshop included an audit of one of the farms and an onsite cacao tasting where some of the 10 varieties that were distributed through the Grant were tasted to provide farmers with a reference of the complexity of flavors in cacao and the difference in flavor that can be perceived from one variety of cacao to the other.

Goals and Outcomes

At this moment, the first cacao tree production had a no significant commercial gain. The increase in production will occur on 2019 when the production is expected to reach 27,000 pounds of cocoa annually. Some growers are selling cacao to Jeanmarie Chocolate, Inc.

At the end of 2017 is expected that the 10 to 15 commercial cacao growers on the island will have the 1st year of production accountable, this will be the third year after planting.

The first set of cocoa trees were reported on the year 2014, this means we will be having results on this data on the year 2017. The same issue will be regarding our targeted results for the total farmer sales from production related to the 10,000 grafted trees.

The following expenses were used according to the work plan to produce 10,000 grafting trees. They were properly distributed and planted in 12 farms.

Beneficiaries

This project mostly benefited Cocoa producers. The entire funds were used to produce the grafting cocoa trees.

This project was completed in the time proposed for incipient Cocoa crops in Puerto Rico. The integration of partners was crucial for the success of this project:

- **USDA Experimental Station** with the Grafting.
- The grafted tree Producer (**Hacienda Tierra Adentro, Inc.**)
- The **Farmers** using equivalent to 1.5 acres of their farms to performed the project.
- The **Puerto Rico Department of Agriculture** and **United States Department of Agriculture** with the compromised to help this new industry and the new and existing local chocolate industries (**Nutri Caribe Inc.**, and **Hacienda Jeanmarie Inc.** All together performed the project and now we had established new cacao industry in Puerto Rico adding to the legacy and legitimacy of their contribution to the local industry of specialty crops.
- A total of 12 families were included in this proposal including those of the 11 farmers that bought the grafted trees and the family of the greenhouse the produced the trees.
- \$80,000 where generated by this proposal for the benefit of the commercial greenhouse that was hired for the execution of the proposal.
- The Greenhouse has included cacao in their product offering and has continued to produce cacao trees and generate income from this new product offering. They have diversified their business and generated over \$200,000 in cacao trees since the proposal was awarded.
- The distribution of very high yielding cacao trees in Puerto Rico. The 10 selected varieties to be reproduced and distributed produce around three times more cacao than

conventional trees and have been certified to produce quality flavor. The project has been responsible not only in developing a new industry in Puerto Rico, but has formed the base for the development of an extremely efficient, high yielding, high quality agricultural product for Puerto Rico. The information generated by the Cacao Research in the USDA-TARS Mayaguez is public information that can serve to drastically increment the capacity of production and income generation of cacao world wide; however, this information had never been used for the benefit of Puerto Rico despite having been information generated in the island for over 50 years.

- The money invested by the farmers in these trees could and probably would have been used to purchase imported goods. The impact of having invested their money on the purchasing of these trees is an example of 100% sustainable economy as the money is generated internally and is spent internally. This creates a multiplier effect in terms of the economy generated through this effort.
- Since the start of the project in 2015, 4 of the farmers from the project have maintained an interest in cacao as a crop and have already started to produce and sell their crop to Cortés Hermanos. Despite the fact that conventional trees take 5 years to begin production, the farmers of these trees have already begun to produce in their second year. Since January, Cortés has purchased 500 pounds of cacao at \$4.00 per pound from these farmers, so the project has already generated \$2,000 in sales/purchases of agricultural product in only 4 months. It is estimated that this production will increment monthly in 2017 and will be duplicated in 2018 and triplicated in 2019. The cacao purchased by Cortés is being processed locally and sold locally thus supporting manufacturing in Puerto Rico and helping substitute the purchase of imported goods for locally farmed and processed goods.

Lessons Learned

- People responsible for the proposals submitted must be completely involved in the execution of the proposal.
- If third parties are contracted for the execution of the proposal, the contracting party should maintain consistent and close interaction with the supplier.
- The supplier should feel supported by the client in terms of technical support, especially if it is a crop that is new to the supplier.
- The beneficiaries of the proposals should have to invest in some degree in order to obtain the benefits of the proposal in order to create a sense of ownership and to really commit to the intention of the project and Specialty Crops Grant.
- The beneficiaries of the grant should be a group of around 5-14 people. This in order for the person responsible to be able to establish relationships with the people involved in the project and be able to understand the needs and follow up on the benefits and intentions of the project. Including too many people will limit the amount of detail with which the project can be executed and limiting the number of people too much will also limit the potential for success in case the people included in the proposal become unmotivated or distracted with other initiatives.

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Imagen de visitas de seguimiento de Eduardo Cortés vivero Hacienda Tierra Adentro



Imágenes de Ejecución del Proyecto
Primera Entrega de Arboles Injertados de la Propiedad



Foto de Taller de Injertos Dr. Lépido Batista (Estas imágenes son la parte teórica taller en el Puerto Rico Chocolate Festival, la parte práctica se dió en el vivero Hacienda Tierra Adentro, pero no tenemos imágenes disponibles de esta parte del taller)



SUBGRANTEE PROJECT (4): NUESTRA ESCUELA, ORG.

Project Title: *Planting the Network-Providing Vieques Youth and their Families Work Alternatives in the Development of a Sustainable Agriculture Network between Local Businesses and Farmers*

PROJECT SUMMARY:

Vieques is a small Island Municipality in Puerto Rico, where the distribution of resources is mostly unfair, few work options are available and food security is limited. Agricultural development in the island is essential, therefore we will develop a municipal project that facilitates the production, distribution and marketing of local agriculture. At-risk youth from *Vieques*, many who had dropped out of school and are now part of *Nuestra Escuela* are the heart of this innovative project. *Nuestra Escuela Inc.* is an alternative school that focuses in enabling students and families to achieve self-sufficiency and a better quality of life. This project is aimed to provide our participants and other youth (who are enrolled in *Vieques'* high schools), the necessary tools and technical preparation for auto-employment and to become part of Puerto Rico's workforce. Finally, enrolling them professionally so they can develop an attitude of commitment to local agriculture. This process aims to integrate farmers on the island with the project participants, enabling the development of new businesses and organizations within the same field. The youth will organize what will be, the *Red de Comercio Agrícola Local Bieké*, which links existing farmers, local business and the new young farmers to develop a sustainable agriculture network in the island and nationally.

PROJECT APPROACH:

Nuestra Escuela Inc. was able to establish workshops for improve greatly the competitiveness of farmers producing vegetable and medicinal plants in *Vieques*. *Vieques* is facing a precarious situation regarding food security, therefore, this project improved efficiency and reduced costs of eligible crops, and in turn, encouraged local organic production and consumption of such.

GOALS AND OUTCOMES ACHIEVED:

According to the established work plan and measurable outcomes, we have achieved the majority of the project goals. The goals not reached are those that require follow up and additional time for completion due to the nature of the task they involve, and/ or, due to external factor beyond the control of project coordinators such as weather. A productive network between farmers and businesses has been effectively established to provide locally grown food to *Vieques* residents while implementing related projects on a school and community level and reducing abandoned spaces that contribute to criminality and affect social economic activity in different areas around the Island. Conservation and ecological practices have been incorporated such as composting and over 300 students have been impacted with agricultural education throughout the Island.

Movie-forum in public parks and plazas (ex. La Esperanza boardwalk)	COMPLETED	
	<input type="checkbox"/> Two movie forums have been held: one in may 2015 in Vieques Plaza and another one in July 2015 to show movies done by agroecologiapr/ Boricuá in La Esperanza's boardwalk.	
	<input type="checkbox"/> Movie forum organized for Saturday, December 20, 2014 in La Esperanza Boardwalk	
	<input type="checkbox"/> A movie screen was made with PVC tubes and cloth to show movies in public spaces.	
Participation in external event (ex. Sell products in Leatherback Festival in Luquillo)	COMPLETED	
	<input type="checkbox"/> Students from Nuestra Escuela and German R. gave composting and medicinal plants workshop in Leatherback Festival in Luquillo in April 2014.	
Impact activity (ex. Sell produce in sustainable agriculture themed baseball game)		NOT COMPLETED
Second cohort of certified "Sustainable Agriculture Promoters" graduation (Goal 1)	COMPLETED	
	<input type="checkbox"/> Second course will be held from February 21 st - March, 28 th with a focus on community leaders and teachers.	

BENEFICIARIES:

Beginning Farmers: 65 New Farmers

Local Business: Unquantified – Many Business had Direct and Indirect Benefits with the establishment of this project.

LESSONS LEARNED:

This project has and will continue to have a great positive and quantifiable impact in the establishment of a sustainable economic network that impacts Vieques economy through community agricultural projects. For the future, we will require more capacity building through workshops for schools, community gardens, and farms to continue strengthening the extent and impact this project has for the economic development of Vieques residents.

PICTURES

<https://drive.google.com/open?id=0B9lvq44vfcsydzhXLUIZY3MwSTQ>

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